



5b

BAY AREA TOLL AUTHORITY
JOSEPH P. BORT METROCENTER
101 EIGHTH STREET, OAKLAND, CA 94607-4700
TEL 510.817.5700
TTY/TDD 510.817.5769
FAX 510.817.5848
EMAIL info@mtc.ca.gov
WEB www.mtc.ca.gov

BAY AREA TOLL AUTHORITY (BATA) SPECIAL MEETING
July 10, 2013
MINUTES

AMY REIN WORTH, CHAIR
Cities of Contra Costa County

DAVE CORTESE, VICE CHAIR
San Joaquin County

ALICIA C. AGUIRRE
Cities of San Mateo County

TOM AZUMBRADO
*U.S. Department of Housing
and Urban Development*

TOM BATES
Cities of Alameda County

DAVID CAMPOS
City and County of San Francisco

BILL DODD
Napa County and Cities

DORENE M. GIACOPINI
U.S. Department of Transportation

FEDERAL D. GLOVER
Contra Costa County

SCOTT HAGGERTY
Alameda County

ANNE W. HALSTED
*San Francisco Bay Conservation
and Development Commission*

STEVE KINSEY
Marin County and Cities

SAM LICCARDO
San Jose Mayor's Appointee

MARK LUCE
Association of Bay Area Governments

JAKE MACKENZIE
Sanoma County and Cities

JOE PIRZYNSKI
Cities of Santa Clara County

JEAN QUAN
Oakland Mayor's Appointee

BIJAN SARTIPI
*State Business, Transportation
and Housing Agency*

JAMES P. SPERING
Solano County and Cities

ADRIENNE J. TISSIER
San Mateo County

SCOTT WIENER
San Francisco Mayor's Appointee

STEVE HEMINGER
Executive Director

ANDREW B. FREMIER
Deputy Executive Director

Attendance

Chair Amy Rein Worth convened the meeting at 10:03 a.m. In addition to Chair Rein Worth, the following BATA members were in attendance: BATA Vice Chair Dave Cortese, David Campos, Bill Dodd, Dorene Giacopini, Federal Glover, Scott Haggerty, Anne Halsted, Sam Liccardo, Mark Luce, Jake Mackenzie, Jean Quan, Bijan Sartipi, Jim Sperring, Adrienne Tissier, and Scott Wiener.

Bay Bridge Anchor Bolts and Bay Bridge Opening Update

The Authority received, as an information item, an update on the Bay Bridge anchor rods and Bay Bridge opening. This report was presented by Steve Heminger, BATA Executive Director and Chair of the Toll Bridge Program Oversight Committee (TBPOC), Malcolm Dougherty, California Department of Transportation (Caltrans) Director, and Andre Boutros, California Transportation Commission Executive Director.

Also in attendance and adding their professional opinion to the findings, were Vincent Mammano, California Division Administrator of the Federal Highway Administration (FHWA), and the TBPOC Toll Bridge Seismic Safety Peer Review Panel members: Dr. Frieder Seible, Chair, Dean Emeritus, University of California at San Diego, Dr. John Fisher, Emeritus Professor of Civil Engineering, Lehigh University, and Dr. I.M. Idriss, Emeritus Professor of Civil Engineering, University of California at Davis.

Steve Heminger began the presentation noting the completion of the TBPOC investigative report on the Bay Bridge A354 Grade BD high – strength steel rods, the receipt of a firm schedule for the Pier E2 retrofit from the contractor, and decision on the remaining rods on the SAS.

Mr. Heminger noted that the problem with rods relate to short term hydrogen embrittlement and longer term stress corrosion cracking. Both problems are related to and require material susceptibility, high tensile stress, and the presence of hydrogen. The failure of the 2008 A354 Grade BD Pier E2 was the result of short term hydrogen embrittlement. These rods exhibited a material susceptibility to hydrogen embrittlement with a heterogenous structure and high surface hardness.

It was noted that the TBPOC conducted an in-depth investigation of the high-strength steel rods that included review of thousands of pages of material, consulted with an industry experts, the Seismic Peer Review Panel and FHWA, and briefed BATA and Bay Area State Legislators on multiple occasions. The TBPOC found that the owner (Caltrans), designer (TY Lin International/Moffatt & Nichol Design Joint Venture), and contractor (American Bridge/Fluor Joint Venture) were all jointly responsible for the failed rods at Pier E2. The parties also had varying levels of responsibility for other findings as noted in the investigative report.

Mr. Boutros provided an update on the status of the steel saddle retrofit replacing the clamping force for the broken 2008 rods. Fabrication is on-going in Vallejo, California and Birmingham, Alabama along with field preparation work on the Pier E2 cap. The contractor forecasts shear key retrofit completion by December 10, 2013. Mr. Boutros noted that the TBPOC will recommend the bridge opening date based on retrofit completion, weather windows, and traffic impact. He also noted that bridge opening may not coincide with a Monday holiday weekend and will involve shorter advance notice than normal.

Mr. Dougherty followed with a discussion on the remaining 2,210 A354 Grade BD rods on the bridge, which are performing as designed since tensioning (from several months to several years) and do not exhibit hydrogen embrittlement. Based on extensive additional testing, these rods exhibit improved microstructure that is more homogenous, ductile, and less hard with less material susceptibility to short term hydrogen embrittlement. Mr. Dougherty noted that some rods may be at risk for longer term stress corrosion cracking based on higher than desired surface hardness on some rods. Additional stress corrosion testing will be on-going to determine the extent of the risk.

Based on available testing, the TBPOC has made a provisional finding on how to resolve the stress corrosion cracking risk of each set of rods. Some rods will be dehumidified as per plan that would eliminate the stress corrosion cracking risk by eliminating the presence of corrosion-causing hydrogen. Other rods are under low tension or can have their stress reduced to eliminate their stress corrosion cracking risk by removing the high tensile stress. Finally, given that stress corrosion cracking is a long term issue (years to decades), remaining at risk rods may be removed and replaced after bridge opening.

Finally, Mr. Dougherty concluded the TBPOC's rod presentation noting that the new Bay Bridge is being designed and constructed to a lifeline seismic standard that far exceeds the seismic capacity of the existing bridge.

Mr. Mammano, noted that the TBPOC requested FHWA to perform an arm's length review of the problems related to the rods. He noted that FHWA has been working closely with Caltrans for the last several weeks and tentatively agree with the findings of the TBPOC. He anticipates that the FHWA report would be completed in the near future.

Dr. Sieble, spoke on behalf of the Toll Bridge Seismic Peer Review Panel and noted their agreement with the findings of the TBPOC, except for waiting on completion of the saddle retrofit before opening the new bridge to traffic. The Peer Review Panel provided an option to shim the bearings on the bridge to provide sufficient structural capacity to achieve full seismic safety and allow for bridge opening prior to completion of the saddle retrofit.

Special BATA Minutes
July 10, 2013
Page 3

Commissioners questioned the TBPOC members and the Toll Bridge Seismic Peer Review Panel extensively on a number of related topics including the cause of the rod failure, the schedule of the retrofit, the feasibility of shimming of the bearings, bridge opening, past construction challenges related to the tendons in the Skyway and tower welding, and future bridge maintenance costs.

Mr. Heminger noted that the TBPOC would explore the bearing shim concept while still moving forward with saddle retrofit. He also noted that BATA would explore additional maintenance funding options with Caltrans. Mr. Dougherty noted that the Department has posted on-line for review a number of reports concerning resolution of the tendon issue on the Skyway.

Public comment was given by: Andre Carpiaux, R. Hunter, David Williams, Jerry Grace, and Elyse Remenowsky.

There being no further business, Chair Rein Worth adjourned the meeting at 12:43 p.m. The next regular BATA meeting is scheduled for Wednesday, July 24, 2013 at 9:30 a.m. in Oakland, California.